CLAIMS

1. Droplet deposition apparatus comprising:

a fluid chamber having actuator means actuable by electrical signals to effect ejection of droplets from the fluid chamber;

drive circuit means for supplying the electrical signals to the actuator means; and

conduit means for conveying droplet fluid to or from said fluid chamber, said drive circuit means being in substantial thermal contact with said conduit means so as to transfer a substantial part of the heat generated in said drive circuit to said droplet fluid.

2. Apparatus according to Claim 1 comprising first conduit means for supplying droplet fluid to said fluid chamber and second conduit means for leading droplet fluid from said fluid chamber.

3. Apparatus according to Claim 2, wherein said drive circuit means is thermally connected to the second conduit means.

4. Apparatus according to ~~any previous claim;~~ claim 1 wherein the drive circuit is incorporated within an integrated circuit package of substantially cuboid form in which at least some of the faces are rectangles each having a surface area, a face other than that face having the smallest surface area being arranged so as to lie substantially parallel to the direction of fluid flow in that part of the conduit closest to said face, and to be in substantial thermal contact with the fluid.

5. Apparatus according to Claim 4, wherein the face having the greatest surface area is arranged so as to lie parallel to the direction of fluid flow.

6. Droplet deposition apparatus comprising:

at least one droplet ejection unit comprising a plurality of fluid chambers, actuator means and a plurality of nozzles arranged in a row, said actuator

means being actuable to eject a droplet of fluid from a fluid chamber through a respective nozzle; and

a support member for said at least one droplet ejection unit, said support member comprising at least one droplet fluid passageway communicating with said plurality of fluid chambers and arranged so as to convey droplet fluid to or from said fluid chambers in a direction substantially parallel to said nozzle row and to transfer a substantial part of the heat generated during droplet ejection to said conveyed droplet fluid.

7. Apparatus according to Claim 6, wherein the droplet fluid passageway occupies the majority of the cross-sectional area of the support member.

8. Apparatus according to Claim 6 ~~or 7~~, wherein the droplet fluid passageway comprises respective portions for conducting droplet fluid into and away from each fluid chamber.

9. Apparatus according to ~~any of~~ Claims 6 ~~to 8~~, wherein the cross-section of support member is preferably wider in the direction of ink ejection from the nozzles than in the direction of the nozzle row.

10. Apparatus according to ~~any of~~ Claims 6 ~~to 9~~, wherein the support member comprises material having a higher thermal conductivity than said at least one droplet ejection unit.

11. Apparatus according to Claim 10, comprising means for attaching said at least one droplet ejection unit to the support member in order to substantially avoid transferral of thermal deformation of the support member to said at least one droplet ejection unit.

12. Apparatus according to ~~any of~~ Claims 6 ~~to 11~~, comprising a plurality of said droplet ejection units, the support member supporting the droplet ejection units side by side in the direction of the nozzle rows, the support member comprising at least one droplet fluid passageway communicating with at least

two of said ejection units and arranged so as to convey droplet fluid to or from said ejection units in a direction substantially parallel to said nozzle rows and to transfer a substantial part of the heat generated during droplet ejection to said conveyed droplet fluid.

13. Droplet deposition apparatus comprising:

a fluid chamber, at least part of which is formed from a first material having a first coefficient of thermal expansion, said chamber being associated with actuator means actuable to eject a droplet from the chamber and having a port for the inlet of droplet fluid thereto;

a support member for said fluid chamber and including a passageway for supply of droplet liquid to said port, the support member being defined at least in part by a second material having a second coefficient of thermal expansion greater than said first coefficient; and

means for attaching the fluid chamber to the support member in order to substantially avoid transfer of thermal deformation of the support member to said fluid chamber.

14. Apparatus according to Claim ~~11 or~~ 13, wherein the attachment means comprises resilient bonding means for bonding the fluid chamber to the support member.

15. Apparatus according to Claim 13 ~~or 14,~~ wherein the or each fluid chamber comprises a channel formed in a body of piezoelectric material and closed by a cover member substantially thermally matched to the piezoelectric material.

16. Apparatus according to Claim 15, wherein ink supply ports are formed in said cover.

17. Apparatus according to Claims 15 ~~or 16,~~ wherein at least one ink ejection nozzle is formed in said body of piezoelectric material.

18. Droplet deposition apparatus substantially as herein described with reference to the accompanying drawings.